

Name: _____

at1118paper: Complete the Square (v416)

Example

By completing the square, find both solutions to the given equation:

$$x^2 - 56x = -780$$

Add $\left(\frac{-56}{2}\right)^2$, which equals 784, to both sides of the equation.

$$x^2 - 56x + 784 = 4$$

Factor the left side.

$$(x - 28)^2 = 4$$

Undo the squaring. We need to consider both $\pm\sqrt{4}$.

$$x - 28 = -2$$

$$x = 26$$

or

or

$$x - 28 = 2$$

$$x = 30$$

Question 1

By completing the square, find both solutions to the given equation:

$$x^2 - 34x = 936$$

Question 2

By completing the square, find both solutions to the given equation:

$$x^2 + 24x = -119$$

Question 3

By completing the square, find both solutions to the given equation:

$$x^2 + 18x = 760$$

Question 4

By completing the square, find both solutions to the given equation:

$$x^2 + 8x = 384$$

Question 5

By completing the square, find both solutions to the given equation:

$$x^2 - 52x = -352$$

Question 6

By completing the square, find both solutions to the given equation:

$$x^2 + 54x = 360$$